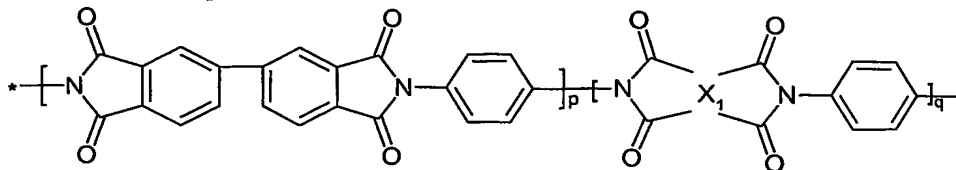


What Is Claimed Is:

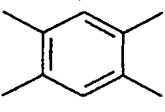
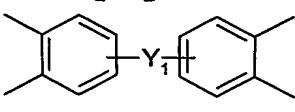
1. A double-sided metallic laminate comprising a metallic layer at one side, a resin layer of a low expansion polyimide having a thermal expansion coefficient of 5×10^{-6} to $2.5 \times 10^{-5}/^{\circ}\text{C}$, a resin layer of a thermoplastic polyimide and a metallic layer at the other side.

2. The double-sided metallic laminate according to claim 1, wherein the low thermal expansion polyimide is the following formula 1.

[formula 1]



in which, $p > 1$, $q > 0$ and $p/q = 0.4 \sim 2.5$,

15 X_1 is  or , and

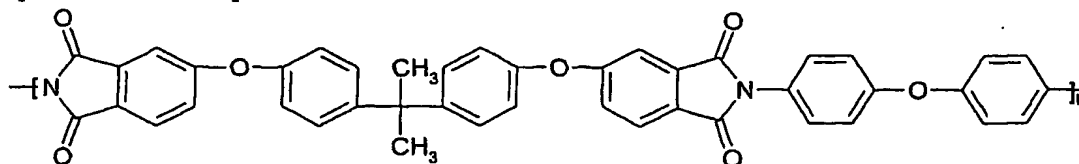
Y_1 is $-\text{O}-$ or $-\text{CO}-$.

3. The double-sided metallic laminate according to claim 1, wherein the thermoplastic polyimide has a glass transition temperature of 200 to 250°C .

4. The double-sided metallic laminate according to claim 1, wherein the thermoplastic polyimide is a copolymer

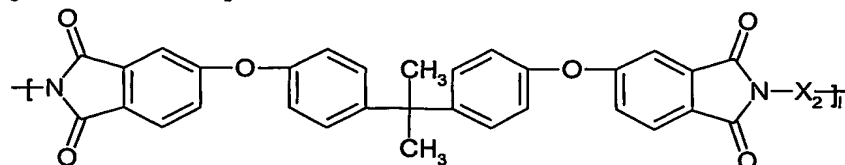
including the following formula 2a, formula 2b, formula 2c and formula 2d.

[formula 2a]

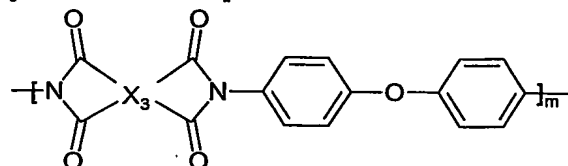


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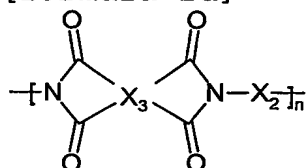
[formula 2b]



[formula 2c]



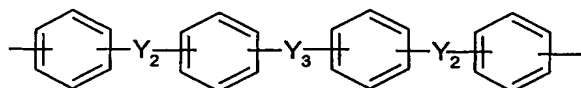
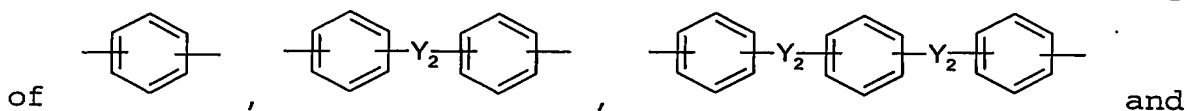
[formula 2d]



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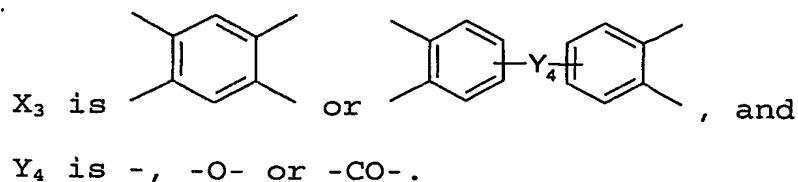
in which, $k \geq 1$, l , m , $n \geq 0$, $l = m = n \neq 0$, $k \geq l$,
 $k + l > 1.5(m + n)$ and $k + m > 1.5(l + n)$,

X_2 is at least one selected from the group consisting

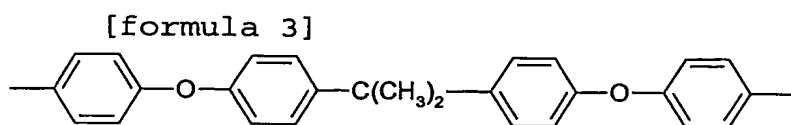


15

Y_2 and Y_3 are each independently or simultaneously -,
 -O-, -CO-, -S-, -SO₂-, -C(CH₃)₂- or -CONH-,

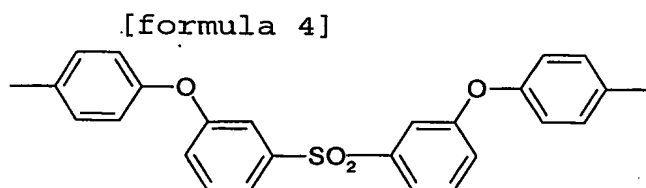


5. The double-sided metallic laminate according to claim 4, wherein the thermoplastic polyimide is the formulae 2a to 2d, in which m, n= 0 and X_2 is the following formula 3.



10

6. The double-sided metallic laminate according to claim 4, wherein the thermoplastic polyimide is the formulae 2a to 2d, in which m, n=0 and X_2 is the following formula 4.



15

7. The double-sided metallic laminate according to claim 1, wherein the metallic layer is formed of copper.

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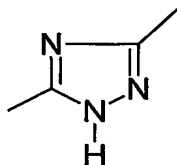
8. The double-sided metallic laminate according to claim 1, which further comprises a resin layer of a polyimide between the metallic layer at one side and a

resin layer of a low expansion polyimide for improving adhesion with a metal.

9. The double-sided metallic laminate according to claim 8, wherein the polyimide for improving adhesion with a metal is a polyimide having a -NH- functional group introduced.

10. The double-sided metallic laminate according to claim 8, wherein the polyimide for improving adhesion with a metal is a polyimide having the following formula 5 introduced.

[formula 5]



15

11. The double-sided metallic laminate according to claim 1, wherein the polyimide for improving adhesion with a metal is a copolymer including the formula 2a, formula 2b, formula 2c and formula 2d.

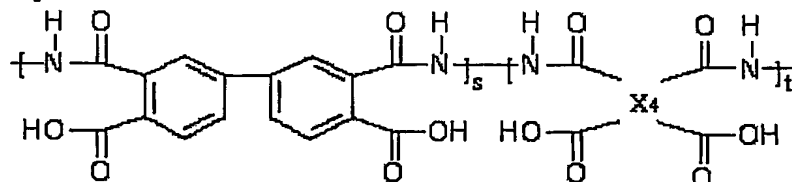
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12. A method for manufacturing a double-sided metallic laminate comprising simultaneously or sequentially applying a precursor of a low thermal expansion polyimide

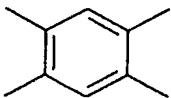
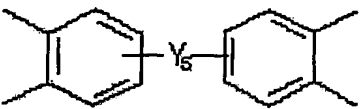
having a thermal expansion coefficient of 5×10^{-6} to $2.5 \times 10^{-5}/^{\circ}\text{C}$ and a precursor of a thermoplastic polyimide on a metal foil to form one side of the double-sided metallic layer, followed by drying and curing, and laminating another metal foil on the resin layer of a thermoplastic polyimide of the resulting one-sided metallic laminate comprising a metal foil layer, a resin layer of a low expansion polyimide and a resin layer of a thermoplastic polyimide, which are sequentially laminated, to form the other side of the double-sided metallic laminate.

13. The method according to claim 12, wherein the precursor of a low thermal expansion polyimide is a copolymer of the following formula 6.

15 [formula 6]



in which, $s > 1$, $t > 0$ and $s/t = 0.4 \sim 2.5$,

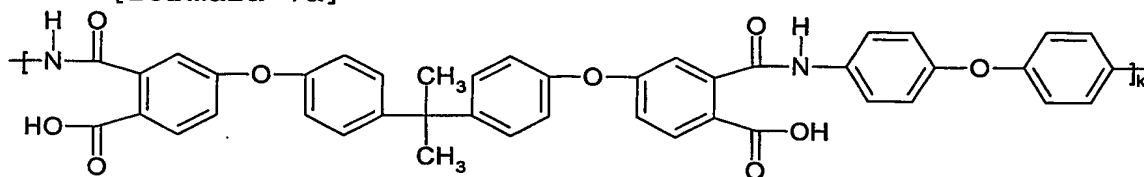
X_4 is  or , and

Y_5 is -, -O- or -CO-.

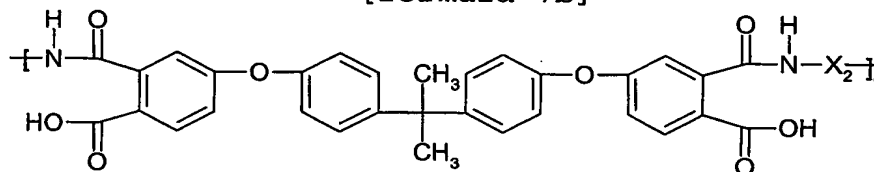
14. The method according to claim 12, wherein the thermoplastic polyimide has a glass transition temperature of 200 to 250°C.

15. The method according to claim 12, wherein the precursor of a thermoplastic polyimide is a copolymer including the following formula 7a, formula 7b, formula 7c and formula 7d.

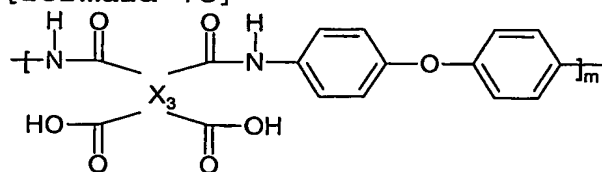
[formula 7a]



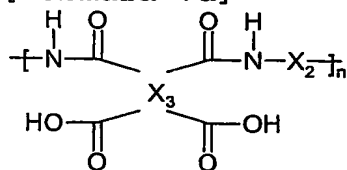
[formula 7b]



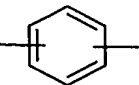
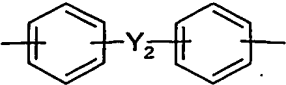
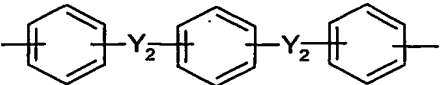
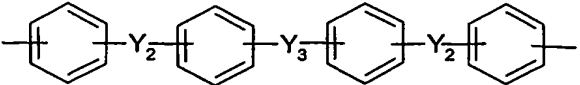
[formula 7c]



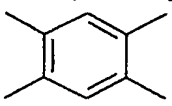
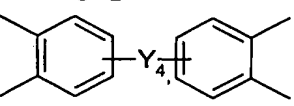
[formula 7d]



in which, $k \geq 1$, l , m , $n \geq 0$, $l = m = n \neq 0$, $k \geq l$,
 $k + l > 1.5(m + n)$ and $k + m > 1.5(l + n)$,

X_2 is at least one selected from the group consisting
 of , ,  and


Y_2 and Y_3 are each independently or simultaneously -,
 5 -O-, -CO-, -S-, -SO₂-, -C(CH₃)₂- or -CONH-,

X_3 is  or , and

Y_4 is -, -O- or -CO-.

16. The method according to claim 15, wherein the
 10 precursor of a thermoplastic polyimide is the formulae 7a
 to 7d, in which m, n=0 and X_2 is the formula 3.

17. The method according to claim 15, wherein the
 precursor of a thermoplastic polyimide may be the formulae
 15 7a to 7d, in which m, n=0 and X_2 is the formula 4.

18. The method according to claim 12, wherein the
 precursor applied on the metal film at one side of the
 double-sided metallic layer is a precursor of a polyimide
 20 for improving adhesion with a metal, precursor of a low
 thermal expansion polyimide having a thermal expansion
 coefficient of 5×10^{-6} to $2.5 \times 10^{-5}/^\circ\text{C}$ and a precursor of a
 thermoplastic polyimide.

19. The method according to claim 12, wherein the precursor of a polyimide for improving adhesion with a metal is a precursor of a polyimide having a -NH-
5 functional group introduced.

20. The method according to claim 12, wherein the precursor of a polyimide for improving adhesion with a metal is a precursor of a polyimide having the formula 5
10 introduced.

21. The method according to claim 12, wherein the precursor of a polyimide for improving adhesion with a metal is a copolymer including formula 7a, formula 7b,
15 formula 7c and formula 7d.